15160

B. Tech 5th Semester Examination

Microprocessor, Micro Computer & Interfaces (OS)

EC-5001

Time : 3 Hours   **Max. Marks : 100**

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : The question paper consist of five sections A, B, C, D and E. Section E is compulsory. Attempt one question from sections A, B, C and D. Assume suitable data if necessary.

SECTION - A

1. What is the difference between partial decoding and absolute decoding? The following interfacing devices are to be interfaced to 8085 (i) 2k EPROM (ii) 2k RAM. The EPROM address should start to location 0000H and RAM at location 4000H. Draw the complete interfacing circuit.   (15)

2. (a) Explain the register structure of 8085 microprocessor.   (8)

   (b) Explain the merits and demerits of assembly level language and high level language.   (7)

SECTION - B

3. (a) Explain the various types of assembly language development tools in detail.   (8)

   (b) Write an assembly language program to find the division of two numbers by using bit rotation method.   (7)

4. (a) Draw and explain the timing diagram of LXI data instruction.   (8)

   (b) Write an assembly language program to find the LCM of two 8-bit numbers.   (7)

SECTION - C

5. (a) Draw and explain the interrupt structure of 8085 microprocessor in detail.   (8)

   (b) Interface ADC 0808/0809 with microprocessor. Draw the interfacing diagram and write the subroutine for the conversion of analog to digital.   (7)

6. (a) Draw and explain the block diagram of 8279 in detail.   (8)

   (b) Draw and explain the timer modes of 8155.   (7)

SECTION - D

7. (a) Draw and explain the operation of cascaded PIC (8259) system.   (8)

   (b) Interface 8253 with 8085 at counter 0 address 7430H and write a program to call the subroutine after 100msec. Assume system clock available is 2 MHz.   (7)

8. (a) Draw and explain the architecture of pentium processor.   (8)

   (b) Explain the operating modes of 8257 DMA controller.   (7)

SECTION - E

9. (i) What is the difference between microprocessor and micro controller?

   (ii) Draw and explain the control word of 8253.

(iii) Explain the operation of Model of 8255 for output mode alongwith waveforms.

(iv) Explain the various types of assembler directives.

(v) What is the difference between static and dynamic memory?

(vi) Explain delay generation using nested loop.

(vii) Write a program to generate a pulse train of 30% duty ratio.

(viii) Explain interfacing of 8x8 multiplexed keyboards to 8279.

(ix) Explain interrupt on terminal count mode of working for 8253/8254 by giving suitable example.

(x) Give an interfacing scheme for connecting 04 common anode seven segment display using 8255.   (10×4=40)